

IE 410 – INTRODUCTION TO ROBOTICS

Lab-9 report

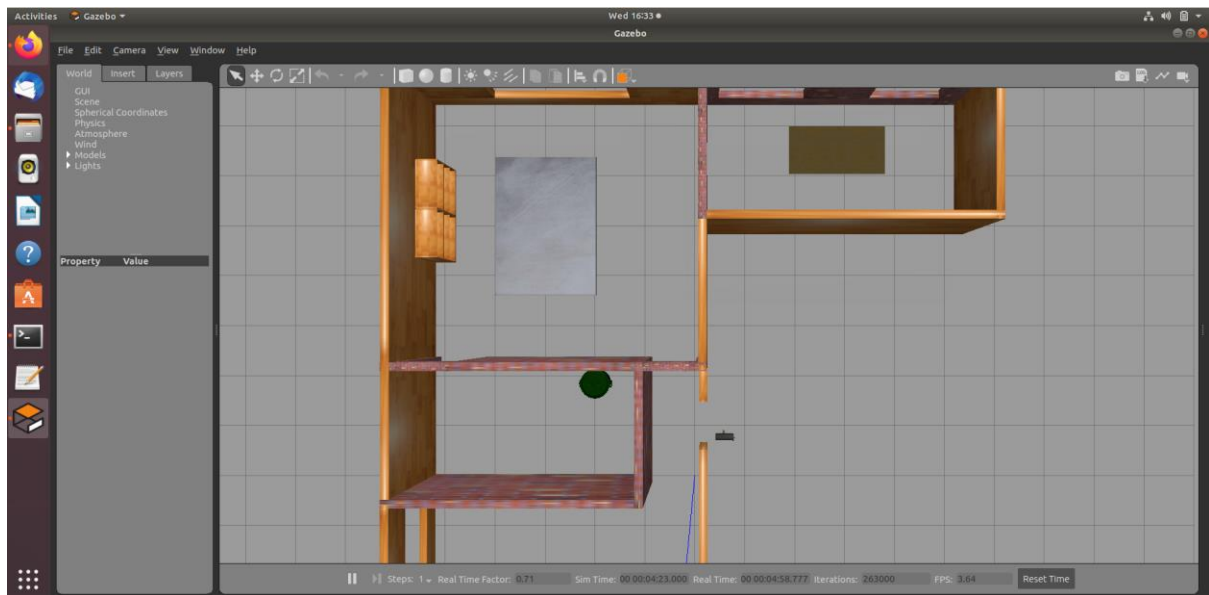
Team M410:

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- Run following commands

```
$ source catkin_ws/devel/setup.bash
```

```
$ roslaunch turtlebot3_navigation  
turtlebot3_navigation.launch map_file:=$HOME/map.yaml
```

```
ation.launch map_file:=$HOME/map.yaml  
... logging to /home/nisarg29/.ros/log/4322c342-bb18-11ec-b3cd-080027f715bd/rosl  
aunch-nisarg29-VirtualBox-4721.log  
Checking log directory for disk usage. This may take a while.  
Press Ctrl-C to interrupt  
Done checking log file disk usage. Usage is <1GB.  
  
xacro: in-order processing became default in ROS Melodic. You can drop the optio  
n.  
started roslaunch server http://dhaval-VirtualBox:33271/  
  
SUMMARY  
=====  
  
PARAMETERS  
* /amcl/base_frame_id: base_footprint  
* /amcl/gui_publish_rate: 50.0  
* /amcl/initial_pose_a: 0.0  
* /amcl/initial_pose_x: 0.0  
* /amcl/initial_pose_y: 0.0  
* /amcl/kld_err: 0.02  
* /amcl/laser_lambda_short: 0.1
```

- To control turtlebot3 by keyboard, run following command

```
$ roslaunch turtlebot3_teleop turtlebot3_teleop_key.launch
```

```
... logging to /home/nisarg29/.ros/log/4322c342-bb18-11ec-b3cd-080027f715bd/roslaunch-nisarg29-Virtual
Box-5191.log
Checking log directory for disk usage. This may take a while.
Press Ctrl-C to interrupt
Done checking log file disk usage. Usage is <1GB.

started roslaunch server http://dhaval-VirtualBox:40575/

SUMMARY
=====

PARAMETERS
* /model: burger
* /rostdistro: melodic
* /rosversion: 1.14.12

NODES
/
  turtlebot3_teleop_keyboard (turtlebot3_teleop/turtlebot3_teleop_key)

ROS_MASTER_URI=http://localhost:11311

process[turtlebot3_teleop_keyboard-1]: started with pid [5209]

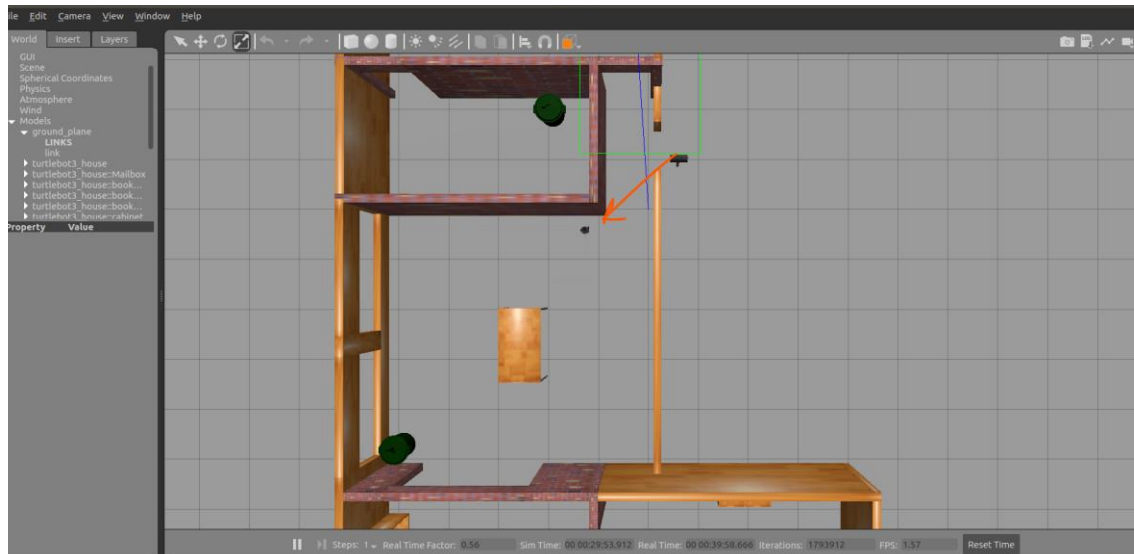
Control Your TurtleBot3!
-----
Moving around:
    w
  a   s   d
    x

w/x : increase/decrease linear velocity (Burger : ~ 0.22, Waffle and Waffle Pi : ~ 0.26)
a/d : increase/decrease angular velocity (Burger : ~ 2.84, Waffle and Waffle Pi : ~ 1.82)

space key, s : force stop

CTRL-C to quit
```

Moving robot using keys:



```
rently:    linear vel 0.2    angular vel -0.1
rently:    linear vel 0.2    angular vel -2.77555756156e-17
rently:    linear vel 0.2    angular vel -0.1
rently:    linear vel 0.2    angular vel -2.77555756156e-17
rently:    linear vel 0.2    angular vel 0.1
rently:    linear vel 0.2    angular vel 0.2

Control Your TurtleBot3!
-----
Moving around:
    w      d
a    s    x

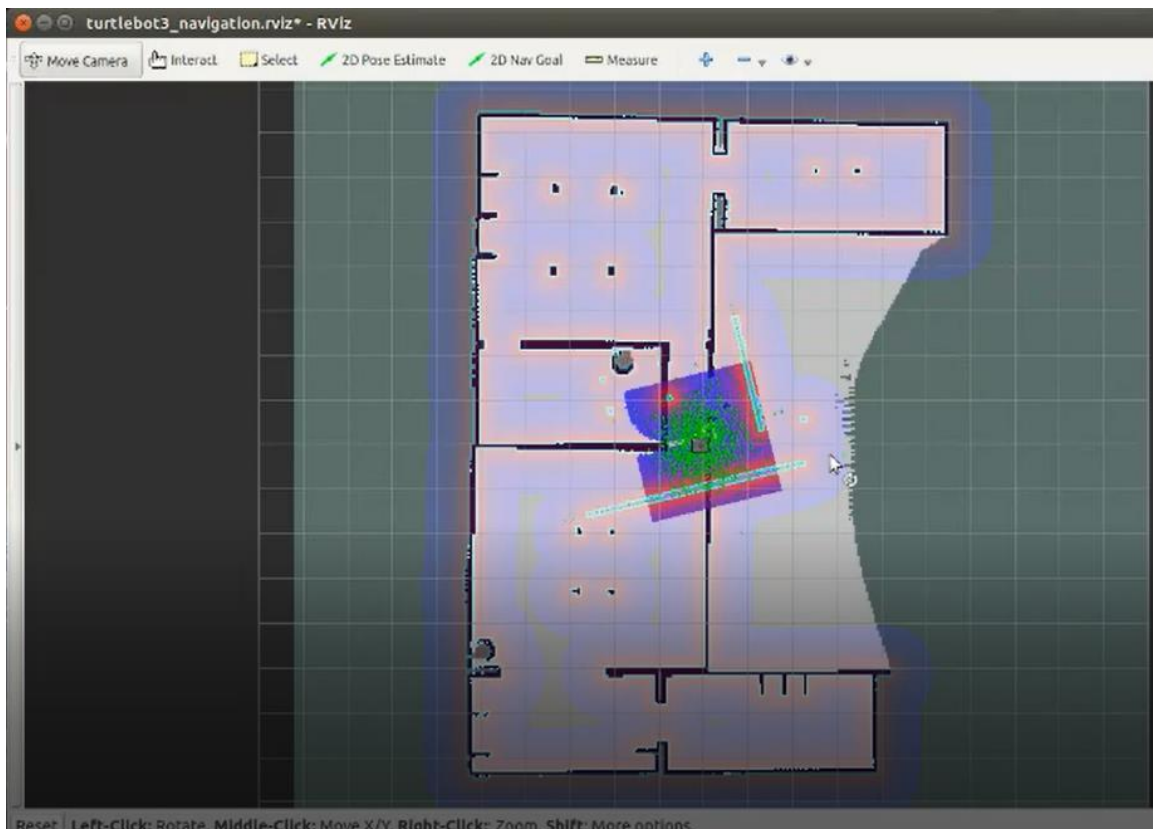
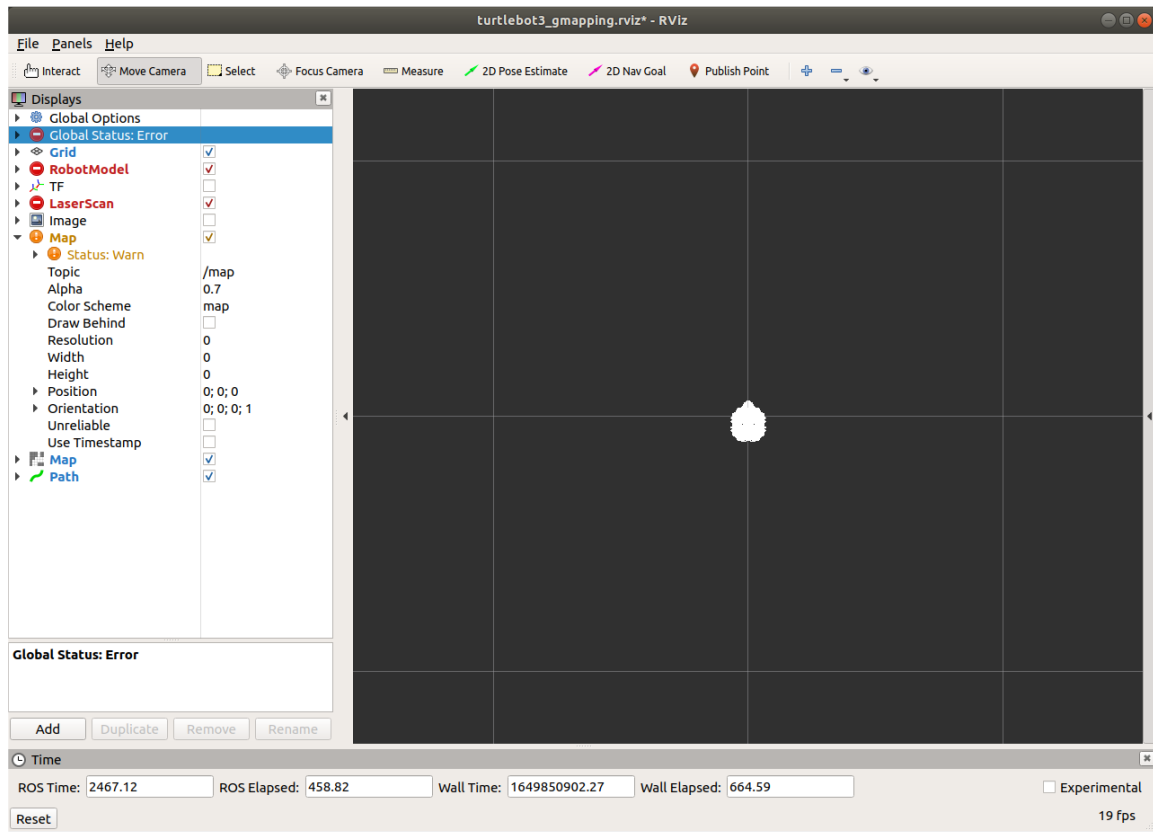
: increase/decrease linear velocity (Burger : ~ 0.22, Waffle and Waffle Pi : ~ 0.2
: increase/decrease angular velocity (Burger : ~ 2.84, Waffle and Waffle Pi : ~ 1.

Press key, s : force stop

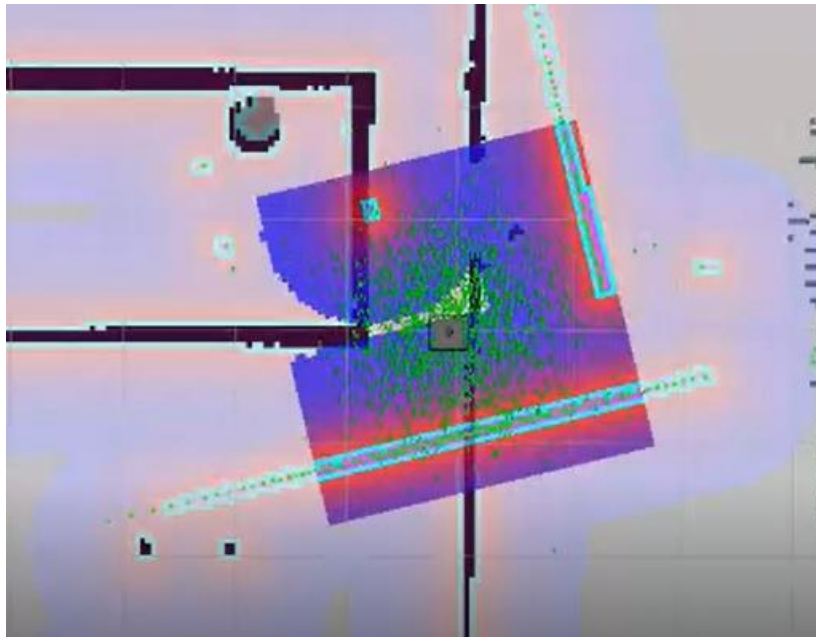
Press L-C to quit

rently:    linear vel 0.2    angular vel 0.3
rently:    linear vel 0.19   angular vel 0.3
rently:    linear vel 0.18   angular vel 0.3
rently:    linear vel 0.17   angular vel 0.3
rently:    linear vel 0.16   angular vel 0.3
rently:    linear vel 0.15   angular vel 0.3
rently:    linear vel 0.14   angular vel 0.3
rently:    linear vel 0.13   angular vel 0.3
rently:    linear vel 0.12   angular vel 0.3
rently:    linear vel 0.11   angular vel 0.3
rently:    linear vel 0.1    angular vel 0.3
rently:    linear vel 0.09   angular vel 0.3
rently:    linear vel 0.08   angular vel 0.3
rently:    linear vel 0.07   angular vel 0.3
rently:    linear vel 0.06   angular vel 0.3
rently:    linear vel 0.05   angular vel 0.3
rently:    linear vel 0.04   angular vel 0.3
rently:    linear vel 0.03   angular vel 0.3
rently:    linear vel 0.02   angular vel 0.3
rently:    linear vel 0.01   angular vel 0.3
```

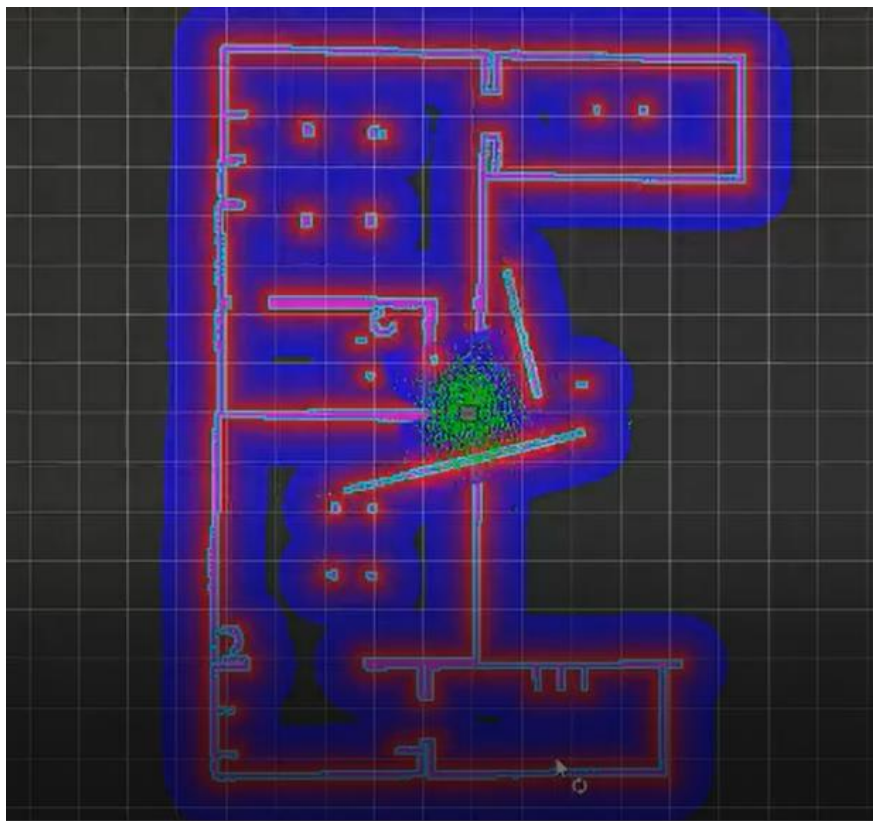
- Retrieving map using turtlebot3_slam.launch



Local map:



Planner map:



Cost map:

